

REMARKS/ARGUMENTS

Claims 1-20 are currently pending in the present application. No amendments have been made to the claims.

Request for reconsideration of the present application is respectfully requested in view of the remarks below.

Rejection under 35 U.S.C. § 112, first paragraph

The rejection of claims 1-20 under 35 U.S.C. § 112, first paragraph for lack of enablement is respectfully traversed.

The Office asserts that there is no support for the phrase “carrying out the hydrogenation in the absence [of] an organic solvent” in claim 1. Office Action at page 2, para. 1. The Office also notes that support for the phrase may be found in the following paragraph:

For the hydrogenation of the phthalonitrile, it is also possible to add an organic solvent. When the hydrogenation is carried out in the presence of ammonia and an organic solvent, preference is given to first preparing the solution or suspension in the solvent.

Id. (Emphasis added). However, the Office indicates that the above “paragraph may suggest that the use of the solvents in the hydrogenation step is optional.” Id. (Emphasis added). Therefore, “[c]larification or correction is required.” Id.

However, Applicant submits that clarification or correction should not be required, since the disclosure is provided in such terms that one skilled in the art can make and use the claimed invention. In particular, it is clearly described in the specification that “[f]or the hydrogenation of the phthalonitrile to the corresponding xylylenediamine (o-, m- or p-xylylenediamine), particular preference is given to adding ammonia,” i.e., no use of organic solvents. Present specification at page 8, lines 27 to 29. In addition, it is clearly described that “[a] preferred embodiment consists in the sole use of liquid ammonia as the solvent.” Id. at line 38. (Emphasis added). Therefore, carrying out the hydrogenation without an *organic solvent* is clearly supported by the present specification, as originally filed.

Regarding the Office’s above-noted assertion that the “solvents” *in general* may be optional, Applicant points out that there is no indication in the disclosure that a solvent is not

used, i.e., claim 1 only refers to the absence of an organic solvent as provided in the specification.

Accordingly, the rejection is improper. Withdrawal of the rejection is kindly requested.

Claim Rejections - 35 U.S.C. § 103

The rejection of claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable over EP 1279661 A2 (“EP ‘661”) to Nakamura et al. is respectfully traversed.

The reference does not describe or suggest a process for preparing ortho-, meta- or para-xylylenediamine, comprising the steps of: ammoxidizing ortho-, meta- or para-xylene to o-phthalonitrile iso- or terephthalonitrile and hydrogenating the phthalonitrile, which comprises:

contacting the vaporous product of the ammoxidation stage directly with a liquid organic solvent, which has a lower boiling point than the phthalonitrile, or with molten phthalonitrile (quench),

removing components having a boiling point lower than phthalonitrile (low boilers) from the resulting quench solution or suspension or phthalonitrile melt,

before the hydrogenation of the phthalonitrile, not removing any products having a boiling point higher than phthalonitrile (high boilers) and

carrying out the hydrogenation in the absence of an organic solvent.

(Present claim 1). (Emphasis added).

EP ‘661 generally describes a process for preparing xylylenediamine (XDA) starting from xylene, and the removal of secondary components prior to the hydrogenation stage. See, for example, the Abstract and claim 1. However, in contrast to the claimed process, the reference also describes, *inter alia*, the presence of certain organic solvents in the hydrogenation of the phthalonitrile. See, e.g., column 7, paras. [0037] and [0038].

Regarding the claimed process, one of the effects of the above-recited process steps (underlined) is the technical advantage that (owing to the omitted stage of high-boilers removal and the omission of the organic solvent in the hydrogenation stage) the process, “at comparable throughputs to prior art processes (for example EP-A2-1 193 244, EP-A1-1 279 661), enables smaller and/or fewer apparatus and machines as a consequence of reduced streams, in particular

solvent streams, including recycle streams.” Present specification at page 2 lines 10 to 15. In other words, the present claims provide an improved, economically viable process for preparing highly pure xylylenediamine, which also results in a high yield and space-time yield (STY). See also Examples 3 to 6 of the present specification at pages 11 to 12.

EP ‘661, on the other hand, does not describe at all the above-mentioned technical advantages or lead one in the direction of the above mentioned technical results. To the contrary, in view of the reference’s disclosure of the removal of high boilers from the crude phthalonitrile prior to the hydrogenation stage, and the presence of certain organic solvents in the hydrogenation of the phthalonitrile, one skilled in the art would be led away from achieving the claimed process. Furthermore, other than hindsight of the present specification, there is no indication of any motivation to modify the disclosure of EP ‘661 in order to achieve the claimed process.

Therefore, in view of the above reasons, the claimed invention is not obvious over EP ‘661. Accordingly, withdrawal of the rejection is kindly requested.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 12810-00213-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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